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Some Effects of Having a Brother or Sister

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Some Effects of Having a Brother or Sister

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(Brief version of paper to be presented at the 1968 APA meeting)

Several investigators maintain that children in the same family tend to acquire each other's characteristics. They assume that a male with a sister will acquire feminine modes of behavior while a male with a brother will acquire masculine modes of behavior. Consequently, they conclude that males with a sister will tend to display a more feminine pattern of behavior than males with a brother. This assumption may be conveniently labeled the sibling-similarity hypothesis.

Available research seems consistent with the sibling-similarity hypothesis. For example, Sutton-Smith and Rosenberg studied a group of men with one sibling and found that, on the Mf Scale of the MMPI, men with a sister displayed a more feminine pattern of response than men with a brother. In a study of 218 college men with one sibling, however, the present investigator has obtained results which conflict with these findings. Using a different femininity measure, the Femininity Scale of the California Psychological Inventory, it has been found that men with an older sister display a less feminine response pattern than men with an older brother. These findings are shown in Table 1. The results in Table 1 are inconsistent with the sibling-similarity hypothesis and indicate there may be a tendency for a younger child to adopt characteristics opposite to those of his older sibling. If there is such a tendency, a male with a sister would tend to display a more masculine pattern of behavior than a male with a brother. This view

which is in direct contradiction to the sibling-similarity hypothesis may be conveniently labeled the "sibling-opposites" hypothesis.

To resolve the apparent contradiction between the sibling-similarity and sibling-opposites hypothesis, and the contradiction between the data which support each hypothesis, the concept of masculinity-femininity must be examined carefullly. The terms masculinity and femininity refer to a cluster of diverse trait dimensions on which the sexes differ rather than a unidimensional trait. For some of these trait dimensions, the sibling-similarity hypothesis may hold true, i.e., for these trait dimensions, the individual may tend to acquire his sibling's characteristics. For other trait dimensions, however, the sibling-opposites hypothesis may hold true, i.e., the individual may tend to acquire characteristics which are opposite to those displayed by his sibling. For males with one sibling, it is therefore possible that men with a sister may be more masculine than men with a brother on some trait dimensions but less masculine on other trait dimensions. This line of reasoning can account for the discrepancy between the findings of Sutton-Smith and Rosenberg and those reported in Table 1. An examination of the Mf Scale used by Sutton-Smith and Rosenberg and of the Femininity Scale used to obtain the data of Table 1 quickly reveals that both measures are very heterogeneous and include items which measure many different trait dimensions on which the sexes tend to differ. Because each scale uses different items to measure a diverse collection of trait dimensions, it is likely that some trait dimensions receive greater weight in one scale than in the other. It is therefore possible that the Mf Scale used by Sutton-Smith and Rosenberg gave relatively high weight to trait

dimensions for which the sibling-similarity hypothesis holds true and thereby caused men with a sister to obtain more feminine scores than men with a brother. On the other hand, the Femininity Scale used by the present investigator may have given relatively high weight to trait dimensions for which the sibling-opposites hypothesis holds true and thereby caused men with a sister to obtain less feminine scores than men with a brother. To test the validity of this explanation, it is first necessary to specify some of the trait dimensions on which the sexes differ. Second, it is necessary to determine the trait dimensions to which the sibling-similarity hypothesis is applicable and the trait dimensions to which the sibling-opposites hypothesis is applicable.

Existing literature identifies many of the trait dimensions on which the sexes differ. Thus, among the culturally-approved patterns of interest and behavior which are commonly associated with maleness are liking for athletic and outdoor activities, great physical strength and athletic ability, liking for mechanical and technical activities and disinterest in aesthetic activities. Males are also expected to suppress emotions such as fear and anxiety and to avoid excessive sentimentality. Interpersonal behaviors which are considered especially appropriate for males include aggressiveness, social assertiveness and interpersonal dominance. In addition, there is reason to believe that males who conform most closely to culturally-approved patterns of masculine behavior tend to prefer the type of activities which most often occur in all-male peer groups. For example, on masculinity-femininity scales, respondents are scored as being more masculine when they express liking for practical joking and loud fun

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and express desire to belong to clubs and lodges. On those trait dimensions in this list to which the sibling-similarity hypothesis is most applicable, males with a sister will display a <u>less</u> masculine response pattern than men with a brother. On those trait dimensions in the list for which the sibling-opposites hypothesis is most applicable, men with a sister will display a <u>more</u> masculine response pattern than men with a brother. Two studies have been conducted that indicate which hypothesis is most applicable to many of the trait dimensions just listed.

The data shown in Tables 2, 3, 4, 5 and 6 are from a study of 1,152 male college students with one sibling. For most of the traits reported in these tables, the sibling-opposites hypothesis is clearly more applicable than the sibling-similarity hypothesis. On these trait dimensions, men with an older sister display a more masculine pattern of response than men with an older brother. Table 2 indicates that men with an older sister tend to be more interested than men with an older brother in outdoor activities such as camping and hiking, water skiing and horseback riding. Table 3 indicates that men with an older sister perform better than men with an older brother on a measure of motor fitness which is based on an individual's ability to do chins, push-ups and vertical jumps. Table 4 indicates that men with an older sister tend to possess greater swimming ability than men with an older brother. The data clearly indicate that in comparison to men with an older brother, men with an older sister possess superior athletic skills and greater interest in outdoor and athletic activities.

Table 5 reports parallel findings for measures of interest in technical activity. Men with an older sister are more interested in technical activities

than men with an older brother. Men with an older sister are more likely to list engineering as an occupational preference and more likely to express interest in avocational activities which involve electronics.

The first item in Table 6 indicates that men with an older sister tend to be more attracted to membership in all-male peer groups than men with an older brother. Men with an older sister express greater interest in joining a social fraternity. However, this finding cannot be considered conclusive because it remains to be shown that the greater desire of men with an older sister to become members of an all-male peer group is not simply a relection of a generalized affiliative need. The other items in Table 6 are measures of interest in aesthetic activity which yield contradictory and inconclusive findings.

On the whole, the results are consistent with a sibling-opposites hypothesis. On several trait dimensions, men with an older sibling tend to adopt behaviors opposite to those of their older sibling. Thus, on measures of athletic performance, interest in outdoor and technical activities and attraction to all-male peer groups, men with an older sister display a more masculine behavior pattern than men with an older brother.

The data shown in Table 7 are from questionnaires administered in a study of 341 male college students with one sibling. For the trait dimensions reported in Table 7, anxiety level and interpersonal dominance, the sibling-similarity hypothesis is clearly more applicable than the sibling-opposites hypothesis. Men with an older sister express greater worry and fear than men with an older brother. On dominance scales, men with a

younger sister obtain lower dominance scores than men with a younger brother. For these trait dimensions, men with a sister tend to display a more feminine response pattern than men with a brother, i.e., they appear to have adopted behaviors similar to those displayed by their sibling.

The studies reported above have identified certain trait dimensions for which the sibling-opposites hypothesis holds true and other trait dimensions for which the sibling-similarity hypothesis holds true. Given this information, it becomes possible to reconcile the apparent contradiction between the findings of Sutton-Smith and Rosenberg and the findings reported in Table 1. The heterogeneous collection of questions in a masculinity-femininity scale may be tentatively divided into two groups of items, one group of questions which assess trait dimensions for which the sibling-opposites hypothesis holds true and another group of questions which assess trait dimensions for which the sibling-similarity hypothesis holds true. This strategy was adopted in a study of 644 male college students with one sibling. The MMPI was administered and the 60-item Mf Scale was divided into a 25-item "opposites component," a 15-item "similarity component" and a 20-item residual component for which no predictions were made. The opposites component of the Mf Scale was composed of questions which assessed interest in outdoor activities, interest in mechanical and technical activities, attraction to all-male peer groups, interest in aesthetic activities and several other items for which the sibling-opposites hypothesis was considered likely to hold true. The similarity component of the Mf Scale was composed of questions which assessed readiness to display anxiety,

fear and high emotional reactivity, items for which the sibling-similarity hypothesis was considered likely to hold true.

The first item in Table 8 shows that no significant effects were obtained on the complete 60-item Mf Scale. On the opposites component, which is the second item in Table 8, the expected effect was obtained. Men with an older sister obtain a significantly less feminine score than men with an older brother. On the similarity component, which is the third item in Table 8, there was a non-significant trend in the expected direction. Overall, the data in Table 8 confirm the preceding theoretical analysis. The opposites component has been extracted from the same Mf Scale used by Sutton-Smith and Rosenberg but yields results which contradict their findings and confirm the findings shown in Table 1. Clearly, for a number of trait dimensions, the sibling-similarity hypothesis is incorrect. On these trait dimensions, men with an older sister show a more masculine response pattern than men with an older brother which indicates that they adopt a behavior pattern opposite to that of their sibling.

The family interaction patterns which cause the sibling-opposites hypothesis to hold true for some trait dimensions but not for others cannot be determined from studies of college-age populations. Such investigations examine only the after-effects or residue of sibling-sibling and parent-child interactions which occurred many years earlier. However, the present study raises important theoretical issues and provides data which must be accounted for by any theoretical analysis of sex-role development.

Many writers have considered the conditions under which one individual acquires the response patterns of another. Consequently, available theoretical analyses describe social interaction processes which probably underly the sibling-similarity hypothesis. However, there is particular need for concepts which can account for the predictive accuracy of the sibling-opposites hypothesis. There have been relatively few discussions of the conditions which lead one individual to adopt response patterns opposite to those of another. In the case of the second-born male child with one sibling, the motivation to adopt response patterns opposite to those of an older sibling could stem from many sources. Two possibilities will be considered here. First, for the boy with an older sister, the older sister may serve primarily as a negative model, i.e., as someone who possesses traits which the younger child should avoid acquiring. To whatever extent the boy does acquire his older sister's feminine response patterns, he will probably find himself disapproved by parents and peers. Consequently, he will be motivated to eschew and to avoid further acquisition of his sister's response patterns. On the trait dimensions for which such processes operate, boys with an older sister are likely to adopt a highly masculine response pattern. Second, for the boy with an older brother, the threat of being bested during the course of sibling rivalry may lead him to avoid adoption of his older brother's response patterns. On an absolute scale, the younger boy is likely to be physically and mentally less advanced than his older sibling. On frequent occasions, he probably compares himself to his older brother or is compared to his older brother by their parents. On such occasions, the younger boy is likely to be

judged inferior, a judgment which is highly aversive for him. Consequently, the boy with an older brother probably stives to minimize the opportunity for such invidious comparisons between himself and his older brother. Because it is difficult to make comparisons between individuals who are performing very different activities, he will avoid areas of interest and activity to which his older brother is attracted, i.e., he will adopt response patterns opposite to those of his brother. On the trait dimensions for which such processes operate, boys with an older brother are likely to adopt a less masculine response pattern.

Though the processes described above can motivate second-born men to adopt response patterns opposite to those of their older sibling, the existence of trait dimensions for which the sibling-similarity hypothesis holds true clearly indicates the presence of factors which limit such processes. Further studies are needed to determine the nature of such limiting factors. In any event, it must be realized that certain findings which seem consistent with the sibling-opposites or sibling-similarity hypothesis may actually have little to do with either hypothesis. For example, it was found that men with a younger brother obtained higher dominance scores than men with a younger sister, a result which can be accounted for by the sibling-similarity hypothesis. However, the greater dominance of men with a younger brother may have come about through processes entirely different from those envisioned by the sibling-similarity hypothesis. For example, males with a younger brother might acquire dominant response patterns because such behavior is highly reinforced in that it is instrumental to success in sibling-rivalry conflicts.

The data indicate that the influence of a brother or sister is considerably greater upon the second born than upon the first born. The magnitude of the sex of sibling effect is probably dependent upon whether a sibling is present during the first few years of life, a period during which many enduring response patterns are being acquired. The family environment of the first born contains no other sibling. Consequently, sex of sibling can have no influence during this early formative period. The family environment of the second born, however, contains an older sibling from the moment the younger child enters the family. Consequently, the sex of the older sibling can have a systematic influence on the second born throughout his entire course of development. The influence of the older child's sex upon the second born may be mediated either by direct sibling-to-sibling contact or by the impact of the first-born child upon parents' mode of response to their younger child.

Table 1

Mean Femininity Scores (High Scores = High Femininity)

Subject's Birth Order	Sample	FEMININITY SCORES Type of Sibling		GROUP N Type of Sibling	
		Brother	Sister	Brother	Sister
First Born	(1)	15.92	14.56	24	34
	(2)	15.00	14.97	23	32
	(1 & 2)	15.47	14.76	47	66
Second Born	(1)	16.41[a]	14.11[a]	32	19
	(2)	16.37	15.33	27	27
	(1 & 2)	16.39[b]	14.83[b]	59	46

NOTE. Pairs of means with the same superscript differ significantly at the .05 level.

Table 2

Mean Interest in Outdoor Activities: Camping & Hiking, Horseback Riding and Water Skiing

(3 = Interest all three activities; 0 = interest in none of them)

Subject's Birth Order	Sample	OUTDOOR INTERESTS Type of Sibling		GROUP N Type of Sibling	
		Brother	Sister	Brother	Sister
First Born	(1)	1.28	1.26	134	144
	(2)	1.27	1.27^{b}	180	244
	(1 & 2)	1.27	1.27^{c}	314	388
Second Born	(1)	1.12^{a}	1.42^{a}	88	105
	(2)	1.18^{y}	1.51^{by}	140	117
	(1 & 2)	1.16^{z}	1.47^{cz}	228	222

NOTE. Pairs of means with the same superscript differ significantly. Superscripts a, b and c indicate a difference significant at the .05 level, y and z a difference at the .01 level.

Table 3

Mean Score on Indiana Motor Fitness Test, Index 1

(High Score = High Fitness)

Subject's Birth Order	Sample	MOTOR FITNESS SCORES Type of Sibling		GROUP N Type of Sibling	
		Brother	Sister	Brother	Sister
First Born	(1)	58.58	53.97[a]	123	135
	(2)	61.16	67.25	147	208
	(1 & 2)	59.99	62.03[b]	270	343
Second Born	(1)	54.21[c]	63.66[ac]	85	94
	(2)	63.98[d]	75.19[d]	106	90
	(1 & 2)	59.63[z]	69.30[bz]	191	184

NOTE. Pairs of means with the same superscript differ significantly. Superscripts a, b, c and d indicate a difference significant at the .05 level, z a difference at the .01 level.

Table 4

Aquatic Classification (5 = Instructor; 1 = Beginner one)

Subject's Birth Order	Sample	AQUATIC CLASSIFICATION Type of Sibling		GROUP N Type of Sibling	
		Brother	Sister	Brother	Sister
First Born	(1)	2.64	2.72	123	134
	(2)	2.70	2.58^{z}	149	211
	(1 & 2)	2.67	2.64^{c}	272	345
Second Born	(1)	2.63	2.75	82	92
	(2)	2.61^{a}	2.84^{az}	109	92
	(1 & 2)	2.62^{b}	2.79^{bc}	191	184

NOTE. Pairs of means with the same superscript differ significantly. Superscripts a, b and c indicate a difference significant at the .05 level, z at the .01 level.

Table 5

Percentage of Subjects Indicating Interest in Technical Activities

Activity	Subject's Birth Order	ACTIVITY Type of Sibling		GROUP N Type of Sibling	
		Brother	Sister	Brother	Sister
1. Chooses engineering as occupation	First	63.09[a]	61.85	298	367
	Second	54.13[ab]	63.55[b]	218	214
2. Hi-Fi & Stereo Equipment Study	First	19.11	21.39	314	388
	Second	16.67[c]	24.78[c]	228	222
3. Radio Station	First	14.97	16.75	314	388
	Second	10.96[d]	18.92[d]	228	222

NOTE. Pairs of means with same superscript differ significantly at the .05 level

Table 6

Percentage of Subjects Expressing Attraction to Social Fraternities and Interest in Aesthetic Activities

Index	Subject's Birth Order	INDEX Type of Sibling		GROUP N Type of Sibling	
		Brother	Sister	Brother	Sister
1. Expresses desire to join social fraternity	First	22.36	25.06[a]	313	387
	Second	20.61[z]	32.73[az]	228	220
2. Indicates interest in painting and sketching	First	15.29[b]	10.31[b]	314	388
	Second	10.96	9.46	228	222
3. Answers "Yes" to question: "Do you sing?"	First	23.25	25.89	271	309
	Second	24.23[c]	34.03[c]	194	191

NOTE. Pairs of means with same superscript differ significantly. Superscripts a, b, and c indicate a difference significant at the .05 level, z a difference at the .01 level.

Table 7

Mean Scores on Scales Measuring Anxiety and Dominance

Scale	Subject's Birth Order	SCALE SCORES Type of Sibling: Brother	SCALE SCORES Type of Sibling: Sister	GROUP N Type of Sibling: Brother	GROUP N Type of Sibling: Sister
SAMPLE 1					
1. IPAT Anxiety Scale	First	29.34[a]	27.02	38	51
(High score = high anxiety)	Second	22.12[ab]	29.06[b]	25	31
2. MPI Neuroticism Scale	First	24.39[c]	21.62[d]	38	50
(High score = high neurot.)	Second	18.88[cy]	26.90[dy]	25	31
SAMPLE 2					
3. EPPS Dominance Scale	First	13.95[e]	12.09[e]	61	57
(High score = high dom.)	Second	13.40	13.43	43	35
4. CPI Dominance Scale	First	29.44[z]	25.98[z]	61	56
(High score = high dom.)	Second	27.51	27.91	43	35

NOTE. Pairs of means with the same superscript differ significantly. Superscripts a, b, c, d and e indicate a difference significant at the .05 level, z a difference at the .01 level.

Table 8

Mean Scores on Selected MMPI sub-Scales

Sub-Scale	Subject's Birth Order	Type of Sibling: Brother	Type of Sibling: Sister
1. Mf Scale (High score = high femininity)	First	25.51	25.73
	Second	26.50	26.26
2. Opposites component of Mf Scale. (High score = High Fem.)	First	8.63	8.57
	Second	9.24[a]	8.37[a]
3. Similarity component of Mf Scale. (High score = High Fem.)	First	7.71	7.74[b]
	Second	8.01	8.42[b]
4. Shyness factor (High score = high shyness)	First	1.54[c]	2.16[cd]
	Second	1.53	1.73[d]
5. Revised Dominance (High Score = high dom.)	First	9.12[e]	8.51[e]
	Second	8.82	8.76
6. N for all measures	First	180	180
	Second	136	148

NOTE. Pairs of means with the same superscript differ significantly at the .05 level.